UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK
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FERROSTAAL, INC.,

Plaintiff,

- against -

M/V TUPUNGATO, her engines, boilers, tackle, etc., F.H. BERTLING REEDERE GMBH, BERTLING LOGISTICS POOL, ADMINISTRADORA DE NAVES HUMBOLDT LTDA, HANSEATIC SHIPPING CO., LTD., KOURIAN SHIPPING, INC.,

Defendants.

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F.H. BERTLING REEDERE GMBH, BERTLING LOGISTICS POOL, TUPUNGATO SHIPPING INC.,

Third Party Plaintiffs,

- against -

COMPANIA SUD AMERICANA DE VAPORES, S.A.

Third Party Defendant.

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COMPANIA SUD AMERICANA DE VAPORES, S.A.

Second-Third Party Plaintiff,

- against -

ULTRABULK, S.A. PANAMA,

Second-Third Party Defendant.
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OPINION

03 Civ. 4885(MGC)
03 Civ. 6236(MGC)

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**Cedarbaum, J.**

Ferrostaal, Inc. sues under the Carriage of Goods by Sea Act ("COGSA"), 46 U.S.C. § 1300 *et seq.*, for cargo damage which it alleges occurred aboard the M/V Tupungato (the "Tupungato") during an ocean voyage from Huachipato, Chile to New Orleans. Plaintiff originally sought to recover from the vessel Tupungato *in rem*, the charterers F.H. Bertling Reedere GmbH and Bertling Logistics Pool (the "Bertling Defendants"), the technical manager of the vessel, Administradora de Naves Humboldt Ltda., the crewing agent, Hanseatic Shipping Co. Ltd., and the former owner of the vessel, Kourian Shipping, Inc.

Tupungato Inc., the current owner of the vessel, filed a statement of interest and an answer on behalf of the vessel Tupungato pursuant to Fed. R. Civ. P. Supp. C(6). Tupungato Inc. (collectively referred to with the M/V Tupungato as the "Tupungato Defendants") and the Bertling Defendants filed a third party complaint against another charterer in the chain of charterers, Compania Sud Americana de Vapores, S.A. ("CSAV"). CSAV then filed a third party complaint against yet another charterer, Ultrabulk, S.A. Panama.

Pursuant to a stipulation of the parties, the claims against Kourian Shipping Inc., Administradora de Naves

Humboldt Ltda., and Hanseatic Shipping Co. Ltd. were dismissed. After trial and pursuant to a stipulation of the parties, the third party complaints of the Bertling Defendants, Tupungato Shipping Inc., and CSAV were also dismissed.

Beginning on May 23, 2006, I conducted a nine day bench trial on Ferrostaal's claims against the Bertling and Tupungato defendants. After considering all of the evidence including the credibility of the witnesses, I make the following findings of fact and conclusions of law pursuant to Fed. R. Civ. P. 52(a).

## BACKGROUND

This case concerns cold rolled steel coils that traveled aboard ocean vessel, river barge, rail car, and truck bed in a journey from South America to Illinois. Although the coils began the trip in good condition, when the coil packages were opened in Illinois a significant number of the coils were found with rust and physical damage. The central question in the case is where the damage to the steel coils occurred. More specifically, the question is whether the plaintiff can prove by a preponderance of the evidence that the damage occurred while the coils were in defendants' custody, just prior to or

during the ocean voyage from Huachipato, Chile to New Orleans.

Ferrostaal, Inc. is a Delaware corporation in the business of buying, importing, and reselling steel products. In June of 2002, Ferrostaal ordered approximately 1200 cold rolled steel coils from a steel mill located in Huachipato, Chile. Ferrostaal shipped the steel coils under seven different bills of lading. Bill of lading number three ("BL3") covered 116 cold rolled steel coils intended for Interstate Steel Company ("Interstate") of Des Plaines, Illinois. Bill of lading number five ("BL5") covered 149 cold rolled steel coils intended for Mars Steel Corporation ("Mars") of Franklin Park, Illinois.

Cold rolled steel coils are produced by taking long, thin sheets of steel and rolling them into tight bundles. Although the coils vary in size and thickness, they weigh an average of several tons each. Interstate planned to use the steel coils to produce ironing boards, while Mars used similar coils to produce steel office furniture. Any rust or physical damage to the steel coils would render the damaged portions unusable for these purposes.

Ferrostaal entered into a charter party with the Bertling Defendants to transport the cold rolled steel coils from Chile to New Orleans. Ferrostaal understood that the

cargo would be shipped on a bulk carrier equipped with a natural ventilation system. Generally, bulk carriers are designed to transport bulk cargo, such as grain, wood, and metal, in a small number of very large cargo holds with natural ventilation systems. The Tupungato is a typical bulk carrier, and the vast majority of cold rolled steel coils shipped by sea are shipped aboard similar vessels.

The Tupungato had five cargo holds forward of the engine room. Each cargo hold was approximately 50 feet deep, 50 feet long, and 60 feet wide. The cargo holds were directly below deck and extended the full width of the ship. Holds 3, 4, and 5 were directly above the ship's fuel tanks, while holds 1 and 2 were located above ballast tanks. The cargo holds were separated from one another by a sheet of steel known as a bulkhead. The Tupungato's ventilation system consisted of two pipes leading out of each hold. The pipes had "mushroom" caps to keep out rain and seawater.

All of the steel coils in this case were produced at the Huachipato Mill. The steel was formed into thin sheets, coated with oil as a protection against moisture, and rolled into coils. The coils were then transferred several hundred meters aboard rail cars from the manufacturing building to the warehouse, where each coil was wrapped in water resistant paper. The paper covered all of the exposed

steel, and its seams were taped closed. The wrapped coils were covered with galvanized steel which wound around the sides of the coils and covered both ends. The edges of the covers were crimped and held in place by steel bands. When the Tupungato arrived at the Huachipato Mill on October 24, 2002, the steel coils had been slowly arriving at the warehouse for at least two weeks. The last coils arrived at the warehouse the day before they were to be loaded aboard the ship.

To move the coils approximately 500 meters from the warehouse to the dock, the coils were covered with a plastic sheet and moved aboard a railcar. From October 24 until October 30, 2002, all 1200 coils were loaded into holds 2, 3, and 4 of the Tupungato. A clean bill of lading was issued for the coils.

The Tupungato then sailed to the port of San Vicente, Chile, where it took on cargo of timber. In order to make room for the new cargo, Captain Goran Babic, the Master of the Tupungato, and Oscar Galvez, an agent of CSAV, ordered the steel coils stowed up to four tiers high and relashed.

The Tupungato left San Vicente on November 4, 2002 and began its journey north. The Tupungato stopped in Callao, Peru, on November 8, 2002, where cargo consisting of copper cathodes, various metals, and lumber was loaded into holds

3, 4, and 5. Beginning on November 11, 2002, the Tupungato again sailed north, eventually passing through the Panama Canal and arriving at Milan Street Wharf ("Milan Street") in New Orleans on November 22, 2002. The ventilation log show a low temperature of 14 degrees Celsius and a high temperature of 33 degrees Celsius during the ocean voyage.

While at Milan Street, some of the cargo aboard the Tupungato was discharged. In order to facilitate the cargo discharge, some of the steel coils were shifted from hold 3 to hold 4. The ship then continued on to Mile 105 near New Orleans where many of the steel coils, including those under BL3 and BL5, were loaded aboard river barges bound for the Chicago area.

The river barges were unmanned and unventilated. The barges journeyed up the Mississippi River, into the Illinois and Chicago rivers, and eventually traveled approximately 30 miles across Lake Michigan to Burns Harbor, Indiana. The coils arrived at Burns Harbor on January 4, 2003, and were discharged from the river barges and stored in a warehouse at the Federal Marine Terminal, which had no climate control. From the warehouse, the coils were shipped by truck to their various destinations.

Mars first reported damage to the inner contents of the steel coil packages on February 10, 2003. James McNulty, a

marine surveyor hired by plaintiff, conducted damage surveys of the Mars coils. Of the 149 coils Mars received under BL5, McNulty found that 102 coils exhibited various degrees of damage. He concluded that the damage was 50% attributable to rust and 50% attributable to physical damage. Although Mars intended to reject the damaged steel coils, McNulty negotiated for Mars to retain the coils at approximately half of their undamaged price.

Interstate first reported damage to its coils on March 14, 2003. McNulty determined that all 116 coils under BL3 were damaged, and he concluded that 76% of the damage was caused by rust and 24% was physical damage. After negotiation, Interstate also agreed to retain the damaged steel at approximately half of its original price.

## DISCUSSION

The steel coils in this case traveled thousands of miles, were handled numerous times, and were transported by several different methods. At some point between the time they were produced at the Huachipato Mill and the time they were inspected in the Chicago area, 218 of the 265 coils under BL3 and BL5 were damaged by rust, physical impact, or both. Plaintiff's primary theories of how the damage occurred revolve around several distinct events. First,

plaintiff contends that the ship was improperly ventilated, resulting in several forms of condensation that thoroughly wetted the cargo. Second, plaintiff argues that the ventilators were left open during a storm which caused seawater to wash into the holds and wet the cargo. Third, plaintiff asserts that the coils were improperly stowed aboard the Tupungato, resulting in physical damage. Fourth, plaintiff maintains the coils were damaged at Milan Street in New Orleans when they were shifted for the unloading of copper cargo.

Under COGSA, plaintiff bears the initial burden of making out a prima facie case that the goods were damaged while in defendants' care. Transatlantic Marine Claims Agency Inc. v. M/V OOCL Inspiration, 137 F.3d 94, 98 (2d Cir. 1998). If met, the burden then shifts to defendants to establish that the damage occurred as a result of one of the statutory exceptions. Atl. Mut. Ins. Co. v. CSX Lines, L.L.C., 432 F.3d 428, 433 (2d Cir. 2005). See 46 U.S.C. app. § 1304(2).

Plaintiff may satisfy its burden by showing that the goods in question were received by the defendants in good condition and off-loaded in damaged condition. Transatlantic, 137 F.3d at 98; Westway Coffee Corp. v. M.V. Netuno, 675 F.2d 30, 32 (2d Cir. 1982). Typically, a clean

bill of lading constitutes prima facie evidence that the goods were received by defendants in good condition. Atl. Mut. Ins. Co., 432 F.3d at 433. "A clean bill of lading does not, however, constitute prima facie evidence of the condition of goods shipped in sealed packages where the carrier is prevented from 'observing the damaged condition had it existed when the goods were loaded.'" Bally, Inc. v. M.V. Zim Am., 22 F.3d 65, 69 (2d. Cir. 1994)(quoting Caemint Food, Inc. v. Brasileiro, 647 F.2d. 347, 352 (2d Cir. 1981)). In such a case, plaintiff must present some further proof. Bally, 22 F.3d at 69.

Similarly, when cargo is shipped in sealed containers and not inspected at the time of discharge, plaintiff may have difficulty presenting direct evidence that the coils were damaged before discharge. In those instances plaintiff can instead show that "the characteristics of the damage suffered by the goods justify the conclusion that the harm occurred while the goods were in the defendant's custody." Transatlantic, 137 F.3d at 99; see also Vana Trading Co. v. S.S. Mette Skou, 556 F.2d 100, 105 n.8 (2d Cir. 1977).

Although each party in this case has framed the standard of proof in a COGSA action in its own favor, in order to make out its prima facie case plaintiff was required to prove by a preponderance of the evidence that

the goods were damaged while in defendants' control. See Nissho-Iwai Co. v. M/T Stolt Lion, 719 F.2d 34, 38 (2d Cir. 1983).

## Plaintiff Proved that the Coils Were Loaded in Good Condition

In this case, the clean bill of lading issued by Captain Babic does not constitute prima facie evidence of the condition of the steel coils. Captain Babic did not observe the coils before they were packaged and could not see the condition of the coils inside their galvanized steel wrappers.

Although plaintiff cannot rely on the clean bill of lading, plaintiff did present other evidence that the coils were loaded in good condition. Juan Medina, a marine surveyor in Chile, surveyed the steel coils on plaintiff's behalf at the Huachipato Mill. Medina testified that the coils were clean, shiny, and "first-class" before they were packaged. He also watched as the steel coils were transported to the dock and placed in the holds of the Tupungato. Although his testimony contained some discrepancies, he was generally reliable and trustworthy.

With Medina's testimony, plaintiff established the first prong of its prima facie case.

## Plaintiff Did Not Prove That the Coils Were Discharged in Bad Condition

Although the steel cargo was observed by surveyors at Huachipato, San Vicente, Milan Street, Mile 105, and Burns Harbor, none of those surveyors opened the galvanized steel covers of the coils to ascertain damage to the inner contents. The surveyors from Milan Street, Mile 105, and Burns Harbor all testified to the general condition of the coil covers, including testimony about rust and physical damage. The experts for both plaintiff and defendant were unanimous in their opinion that the condition of a steel coil cannot normally be ascertained by looking at the galvanized cover. Therefore, most of the observations of damage to coil covers observed at Mile 105 and at Burns Harbor is not sufficient, on its own, to prove that the inner coils were also damaged. The coils suffered two distinct forms of damage. Rust and physical damage are each addressed in turn.

## Damage to Coils Caused by Moisture

More than half of all the damage claimed by plaintiff was rust damage allegedly caused by moisture inside the coils. Plaintiff contends that the moisture was external in nature and penetrated the coils from the outside. Plaintiff also argues that external moisture occurred aboard the Tupungato. Defendants maintain that the moisture was internal in nature and therefore a manufacturing defect. Alternatively, defendants maintain that plaintiff cannot prove that any external moisture occurred aboard the Tupungato.

*The Coils Were Damaged by External Moisture*

All the experts agreed that the age of the rust on the BL3 and BL5 steel coils could not be determined or dated to any particular voyage. Plaintiff attempted to show that the rust was the kind of rust that would result from external wetting and that conditions aboard the Tupungato would have led to external moisture penetrating the outer wrappers of the coils.

Defendants argue that the rust damage to the steel coils may have resulted from internal condensation, a condition that occurs when moist air becomes trapped in the

laps of the coils during production and condenses due to temperature changes. Defendants contend that internal condensation, as opposed to external wetting, would be considered a defect in the product and would relieve them of liability.

Plaintiff proved that the rust damage to the coils was caused by external wetting and not internal condensation. The testimony of Dr. Peter Elliott, a former professor of metallurgy at the University of Manchester, established that the rust patterns seen on the coils at the damage survey were consistent with water entering the coils from the outside. Internal condensation would have caused flecks of damage throughout the coils. Instead, the coils showed streaking rust damage most heavily concentrated in the outer diameter and inner diameter laps, an indication of external wetting.

Although plaintiff showed that the damage to the coils was not the result of an inherent defect in the cargo, proof that rust was caused by external moisture is insufficient to establish defendants' liability. Plaintiff is required to show it is more probable than not that external wetting occurred aboard the Tupungato.

Plaintiff Did Not Prove that External Wetting Occurred Aboard the Tupungato

Stewart Hobbs, a marine surveyor hired by plaintiff to inspect the coils at Milan Street, and Michael Goodknight, a marine surveyor hired by plaintiff to inspect the coils at Mile 105, both testified that they observed rust and physical damage to the coil covers aboard the Tupungato. Hobbs testified that when he observed the coils aboard the Tupungato their covers were dull and they showed signs of streaking patterns associated with running water. Goodknight testified that the coils were generally dull and had white streaking patterns and stains indicating water had been standing in the eyes of the coils. Both Goodknight and Hobbs conducted silver nitrate tests which indicated that seawater had been present on the coil covers. Goodknight also testified that he saw water sitting on the floor of the cargo hold and coursing down the bulkheads, and he was so concerned about the condition of the coils that he recommended that Ferrostaal secure an $800,000 bond from defendants. Goodknight and Hobbs, however, did not look at the inner contents of the coil covers nor did they relate any coil to any particular bill of lading.

While the photographs received in evidence show some rust and streaking on the coil covers at both Milan Street and Mile 105, it is undisputed that the condition of the coil covers is not evidence of the condition of the coil contents. McNulty specifically noted only two coils from BL5 with rusty covers during the Burns Harbor outturn survey. Neither of those coils had internal rust when they were opened at the damage surveys. These two coils were the only ones pertaining to BL3 and BL5 with rust on their covers which were specifically noted by coil number at any time. None of the rust on the coil covers which was seen at Milan Street or Mile 105 can be traced to any particular coil or bill of lading, and none of the rust damage observed at any of the outturn surveys can be traced to rust noted at the damage surveys.

Unable to make a connection between rust on covers and internal damage, plaintiff advances several theories which it argues demonstrate that external wetting occurred aboard the Tupungato. First, plaintiff argues that the cargo holds were improperly ventilated. Second, plaintiff maintains that condensation formed on the sides of the ship and dripped on the cargo. Third, plaintiff asserts that the cargo vents were left open during a storm. Defendants dispute all of plaintiff's theories and also advance

alternative explanations for how rust came to damage the coils.

*The Cargo Holds Were Properly Ventilated*

The bulk of plaintiff's case focuses on establishing that the Tupungato had improperly ventilated the cargo holds and created a condition that was likely to cause damage to the coils. Captain Arthur Sparks and Captain Robert Meurn, both experts in the field of carriage of steel goods by sea, testified to the general practice for ventilating cargo: When a ship is traveling from "hot to cold, ventilate bold" and when the ship is traveling from "cold to hot, ventilate not." As noted earlier, the Tupungato traveled from a relatively cold environment, with a low of 14 degrees Celsius, to a relatively warm one, with a high of 33 degrees Celsius. Because steel coils are slow to adjust to atmospheric temperature changes, Captain Sparks testified that the coils were probably much closer to 14 degrees than to 33 degrees at the time the outside temperature reached 30 degrees Celsius and above.

Moist air condenses on cargo when the temperature of the cargo drops below the dew point of the air. Plaintiff maintains that, similar to a glass of ice water on a summer

afternoon, a cold steel coil placed in the middle of the Panama Canal will collect a significant amount of moisture -- enough to penetrate the outer steel covers and rust the interior contents. In order to avoid condensation, a ship must follow proper ventilation practice. In this case, the ventilation log shows that the crew of the Tupungato ventilated the cargo holds for nearly the entire length of the ocean voyage. Captain Sparks and Captain Meurn testified that, by ventilating the cargo, the Tupungato crew failed to follow the generally applicable principle.

The Tupungato crew did not measure the dew point in the holds, nor did they record the temperature of the cargo. Without either, it is impossible to know how much sweat, if any, would have accumulated on the steel coils. Plaintiff argues that despite the absence of precise readings from the holds, the general principles indicate that the steel coils would have been significantly wetted.

Indeed, plaintiff's case is grounded upon the general principle that when traveling from a relatively cool climate, such as Huachipato, Chile, to a relatively warm climate, such as the Panama Canal, the vents in the cargo holds must be kept closed. Plaintiff's own expert, Captain Sparks, however, testified that this general principle can be disregarded under certain circumstances. In his book on

the carriage of steel goods by sea, Captain Sparks wrote that "[a]s long as the temperature of the air in the cargo hold is heated up and warm air is rising out through the vents, the dew point temperature of the outside atmosphere surrounding the vessel can be disregarded, although it should be checked and recorded."

Captain Phillip Anderson, an expert witness for defendants, agreed with Captain Sparks and testified that when a ventilated cargo hold is warmer than the outside air, the warm air rises out of the hold and carries moisture with it. The rising air prevents moist air from entering the hold and lowering the dew point. Accordingly, as long as the hold is warmer than the outside air, the vents can and should be left open.

These two ventilation principles are mutually exclusive. If the holds were cooler than the outside air as the ship traveled through the Panama Canal, then the vents should have been sealed tight. If the holds were warmer than the outside air, then the vents could have been safely left open. Therefore, in order to determine whether plaintiff has proved that the coils were subjected to cargo condensation while on board the Tupganato, it is necessary to determine the temperature in the cargo holds. The parties do not dispute that cargo holds 3, 4, and 5 are

directly above fuel tanks. Moreover, they agree that the fuel tanks must be kept heated in order to keep the fuel flowing. The parties disagree on the effect that the heated fuel tanks had on the temperatures in the cargo holds.

The ventilation log of the Tupungato lists outside air temperatures as well as cargo hold temperatures. The ventilation log shows, with a single exception, that the temperatures in the cargo holds were always greater than the temperature of the outside air. For a portion of one day, November 7, 2002, the temperature in cargo holds 2 and 3 was the same as the temperature of the outside air, but in no cargo hold did the temperature ever drop below that of the outside air. Plaintiff has failed to present any evidence that during the short time in which the temperature of the air in holds 2 and 3 was the same as that of the outside air, the dew point in those holds was significantly affected. The ventilation log demonstrates that the general principle of "cold to hot, ventilate not" did not apply to the Tupungato during the sea voyage in question.

Instead of disputing the principle that cargo hold vents should be left open when the holds are hotter than the outside air, plaintiff's experts disputed its applicability by disregarding the temperatures recorded in the ventilation log. Captain Sparks testified that he disregarded that data

because the log showed that the temperature in hold 2 was similar to the temperatures in holds 3 and 4, despite the fact that only the latter two holds were heated. He theorized that the temperature in hold 2 should have been noticeably lower than the temperature in holds 3 and 4. Although Captain Spark's theory was possible it was not plausible.

Captain Anderson, the witness with the most experience of sailing aboard bulk carriers like the Tupungato, testified that the walls between cargo holds on bulk carriers are thin sheets of steel which allow heat to pass relatively easily from hold to hold. Because hold 2 adjoined warmer holds on two sides, Captain Anderson testified that it was not surprising that hold 2 would have temperatures similar to those of holds 3 and 4. Rather than accept this data, plaintiff's experts preferred to assume that the Tupungato crew was not competent to record accurate cargo hold temperatures and conveniently disregarded the data that undermined their opinion while accepting the data that supported it.

Plaintiff attempted to show that the coils rusted aboard the Tupungato, by noting that the discharge surveys demonstrate that the coil covers were in unusually bad condition at the time they were discharged from the ship.

However, when a galvanized steel cover is exposed to moisture it rapidly turns white and dull. Because galvanized steel covers are designed to protect their contents from moisture, it is not surprising that a cover would show signs of rust when the inner coil was unaffected. Captain Anderson testified that plaintiff's photographs showing dull galvanized covers were, in every respect, typical of steel coils carried aboard bulk carriers. He noted that the photographs at Mile 105, which showed stains in the eyes of the coils, were unusual but largely irrelevant. Moderate ship condensation, a possible cause of stains to the coil covers, is not a threat to the contents of wrapped coils and, according to Captain Anderson, the majority of bulk carriers carrying steel cargo dock with similar marks on galvanized steel covers. Finally, it should be noted that McNulty's report at Burns Harbor remarked that the coils were "generally clean and dry," a statement that undermines the notion that the coils were nearly all damaged when discharged from the Tupungato.

To the extent that the witnesses offered conflicting accounts of the ventilation records and the appearance of the steel coil covers, I credit Captain Anderson's testimony. I find that the plaintiff has failed to show

that the cargo holds of the Tupungato were improperly ventilated while carrying the cold rolled steel coils.

Although defendants demonstrated that the Tupungato crew followed proper ventilation procedures, defendants also presented ample evidence to show that even if the Tupungato crew had failed to follow the proper procedures it would have made little difference. Each cargo hold had only two vents designed primarily for the release of toxic gases not the circulation of air. Each vent was very small in relation to the size of the hatches and the hold. Furthermore, the pipes connecting the outside opening of the vents to the cargo hold extended only a short way down into the hold. Captain Anderson testified that, unlike forced air ventilation which can circulate all the air in a hold several times an hour, natural ventilation systems can remain open for days without causing a complete circulation of the air. He testified that the entire discussion of proper ventilation practice and procedure was of only minor significance because natural ventilation systems have such a small effect on the dew point in the holds. Captain Anderson was a very experienced and knowledgeable witness. I found him to be extremely credible and credit his testimony that there is no reliable evidence that external wetting occurred aboard the Tupungato.

*Ship Sweat did not Damage the Cargo*

Cargo holds are washed regularly with seawater. When water condenses on the sides of the ship due to temperature fluctuations, the water collects the salt left over when the seawater evaporates. This salty water, known as ship sweat, can then drip down onto the cargo, potentially damaging it. Plaintiff argues that ship sweat occurred aboard the Tupungato and damaged the steel coils. Silver nitrate tests conducted by Goodknight and Hobbs in New Orleans indicated the presence of salt water on the coil covers, but samples tested by TEI laboratories did not find similar evidence inside the coils themselves. These tests indicated that, even if ship sweat did occur, it did not penetrate the outer wrapping of the tested coils. Even if plaintiff could prove that ship sweat occurred, it has failed to prove that ship sweat played any role in the rust damage found when the steel coils were unwrapped.

*Seawater did not Damage the Cargo*

Plaintiff presented evidence that severe weather conditions threatened the coils beginning around noon on November 17, 2002. The high winds experienced at that time

led the crew of the Tupungato to close the vents in holds 1 and 2. Plaintiff argues that the vents were closed too late and that the vents should have been closed in all of the holds.

Plaintiff's attempt to connect the storm with damage to the steel coils fails for two reasons. First, plaintiff has failed to show that the weather conditions were severe enough to warrant closing all the vents. The crew of the Tupungato made a decision that only the first two holds were threatened by seawater during the period of high wind. None of the evidence offered by plaintiff adequately challenges that judgment. Second, and more importantly, plaintiff has failed to show that seawater played any part in the rusting of the steel coils. As noted, laboratory tests ruled out the presence of salt water inside the coils.

*There Were Other Sources of External Moisture*

Not only did plaintiff fail to demonstrate that improper ventilation, ship sweat, or seawater contamination was a likely cause of damage to the coils, but defendants presented evidence that the coils had an opportunity to rust at several other points in time.

Defendants presented evidence that the steel coils were exposed to damaging conditions aboard the river barges, at discharge in Burns Harbor, and while stored in the Federal Marine Terminal warehouse. The coils were loaded aboard river barges in early December and they arrived in Burns Harbor in early January. The barges were unmanned and unventilated, and no records were introduced showing where they were located on any particular day. Captain Anderson noted that weather reports indicated unusually warm temperatures throughout most of the Midwest during a portion of the barge journey. He noted that the photographs showed red rust at Burns Harbor, but not at Mile 105. Captain Anderson testified that the presence of red rust at Burns Harbor but not at Mile 105 indicates that the coils rusted aboard the barges.

Further supporting a theory that the coils rusted aboard the river barges, McNulty testified that coils rotate when they are moved, leading to the conclusion that rust streaks on the face of a wrapped coil should not be perpendicular to the ground once the coils have been moved from the position in which they rusted. The photographs at Burns Harbor show red rust running perpendicularly down the face of the wrapped coils and terminating near the barge floor. If the coils rotate when they are moved, the Burns

Harbor photographs demonstrate that at least some of the rust occurred aboard the barges. McNulty said the fact that the rust was perpendicular to the barge floor was only coincidental. Yet, the perpendicular pattern recurs from coil to coil. Instead of being coincidental, it is more likely either that the coils rusted aboard the barges or that coils do not rotate when they are moved. Neither explanation is helpful to plaintiff: one undermines plaintiff's case, while the other undermines one of its expert witnesses.

Most importantly, defendants presented evidence that the steel coils were exposed to severe sweat conditions in the Federal Marine Terminal warehouse. On February 3, 2003, McNulty went to the warehouse to survey an unrelated set of coils. On that day, the Chicago area was experiencing unseasonably warm weather, and McNulty noted that the coils he was sent to survey were subjected to significant condensation, or cargo sweat. On February 3, 2003, 95 of the 116 steel coils under BL3 were still in the warehouse and subject to similar conditions. Plaintiff argued that the BL3 coils, which had been in the warehouse for a month, would have been warmer than the unrelated coils McNulty observed which had come directly off a barge. Plaintiff maintains that warmer coils would be less likely to sweat.

The Federal Marine Terminal warehouse, however, is not climate controlled, and the BL3 coils would have been subjected to temperatures near freezing or lower for several weeks. There is no reason to believe that the BL3 coils were so significantly warmer that they would not be sweating when other coils in the same warehouse were sweating significantly.

In addition to the February 3 incident, Captain Anderson testified that January 7 and 8 were also unseasonably warm, and would have created sweat conditions for all of the coils in the Federal Marine Terminal warehouse. Dr. Robert Vecchio, defendants' metallurgical expert, supported Captain Anderson's view that potential sweat conditions existed at Federal Marine Terminal during both January and February.

Physical Damage to the Coils

Without any direct evidence, plaintiff's theory that physical damage to the steel coils occurred aboard the Tupungato is based on a process of elimination.

Plaintiff notes that the coils were received aboard the Tupungato in good condition. Under the direction of an agent of defendants, the coils were stowed up to four tiers

high, two tiers higher than defendants had agreed to stow them. In between the surveys at Milan Street and Mile 105, some coils had been shifted from one hold to another and the copper cargo had been discharged. When Goodknight surveyed the coils at Mile 105, some of the coils had damage to their covers. Furthermore, McNulty noted dozens of coils with damaged covers at outturn in Burns Harbor. Goodknight and McNulty observed the stevedores discharging the coils from the Tupungato and the river barges, and both testified the coils were properly handled. Using this evidence, plaintiff contends that storing the coils four tiers high, shifting the coils from one hold to another, and discharging the copper cargo led to the coils being physically damaged.

Plaintiff's theory has four major problems: first, the damage noted at New Orleans cannot be connected to any bill of lading or to the damaged coils in this case; second, the damage observed to the coil covers did not correlate with damage found to the contents; third, plaintiff does not account for how the coils were handled after they were discharged from the barges; fourth, defendants offered credible testimony that the coils were mishandled while being discharged from the barges.

*The Evidence at Mile 105*

Although significant damage to the coil covers was first observed by Goodknight at Mile 105 in New Orleans, all of the experts agreed that damage to the coil covers generally does not establish that the steel coils themselves were damaged. The vast majority of the physical damage to the coil covers that Goodknight observed was not the kind of damage which would, on its own, give rise to an inference that the interior contents were damaged as well, although Goodknight did observe a few coil covers which were so damaged that their inner contents were exposed when they were removed from the Tupungato.

The Tupungato was carrying 1200 steel coils in holds 2, 3, and 4. Goodknight testified that he observed fewer than 10 coil covers so damaged that their contents were showing through their wrappers. He acknowledged that severe physical damage was something a surveyor should have been careful to note, and yet of the 176 photographs he took at Mile 105 only a single picture clearly shows a coil cover with its contents exposed. None of the coils Goodknight observed with contents exposed could be connected to the 265 coils under BL3 and BL5 as opposed to the 935 coils under the remaining bills of lading. Because of the large number of coils aboard the Tupungato and plaintiff's inability to

identify the handful of coils actually observed with damage, plaintiff has no direct evidence sufficient to establish that any of the steel coils related to BL3 and BL5 were in bad condition at the time of discharge from the Tupungato.

*The Evidence at Burns Harbor*

McNulty testified that during the Burns Harbor discharge survey, when the coils were moved from the river barges to the Federal Marine Terminal warehouse, he recorded twenty-four coils from BL3 and thirty-six coils from BL5 which showed signs of physical damage to their covers. When the coils were later unwrapped and surveyed, only three of those coils from BL3 and twelve of those coils from BL5 had physical damage to their interior contents, proving the general rule that damage to a coil's cover is not a good predictor of damage to the coil itself.

Between the time that the coils were surveyed at Burns Harbor and opened at their eventual destinations, they were handled several times. The coils were placed aboard trucks at the Federal Marine Terminal warehouse and transported to Mars and Interstate. Approximately fifty of the Mars coils were moved a second time to another warehouse for surveying.

All of the coils were handled at least once during the damage surveys.

Based upon the photographs taken by McNulty, Captain Anderson testified that the coils were not properly handled when they were removed from the river barges. He pointed to pictures which showed at least two different mistakes made in handling the coils. First, the cranes lifted the coils at an angle, creating a situation in which a coil might either hit adjacent coils or be damaged by the pressure created during an angled lift. Second, the jeeps, which acted as forklifts to move the coils out of their stowed positions, carried two coils at a time instead of one. Captain Anderson testified that this method of handling could result in the kind of puncture damage depicted in the Burns Harbor photographs. I found Captain Anderson to be an extremely credible witness.

When the coils were discharged from the Tupungato, no record was made indicating that any coils from BL3 and BL5 were damaged. When specific coil numbers from BL3 and BL5 were recorded at Burns Harbor, the stevedores in charge of the discharge from the barges had already handled the coils and introduced another possible cause of damage. Moreover, the specific coil covers noted as damaged at Burns Harbor did not correlate well with damage found inside at the

damage surveys. Furthermore, no evidence was introduced demonstrating how the coils were handled after discharge from the river barges.

Plaintiff has shown only the possibility that defendants caused damage to the coils. Plaintiff has failed to prove by a preponderance of the credible evidence that damage to the coils did occur while the coils were under defendants' control or the control of their agents.

## CONCLUSION

In an action for damage to cargo under COGSA, the plaintiff can prove its case by showing that the goods were in good condition when loaded aboard the ship and discharged in bad condition. Plaintiff need not present direct evidence, but instead it may demonstrate that the characteristics of the damage favor a finding that the damage occurred aboard the ship.

In the current action, plaintiff has established that the goods were loaded aboard the Tupungato in good condition. Plaintiff has failed, however, to establish that the goods were discharged in bad condition. When all plaintiff's theories of rust and physical damage are considered together, the evidence does not establish that it is more likely than not that the coils ultimately delivered

to Mars and Interstate were damaged while in defendants' custody.

The foregoing opinion constitutes my findings of fact and conclusions of law pursuant to Fed. R. Civ. P. 52(a). The clerk is directed to enter judgment for the defendants.

SO ORDERED

Dated: New York, New York
July 19, 2006

S/_____
MIRIAM GOLDMAN CEDARBAUM,
United States District Judge